Building Early Communication Skills Using Technology

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Can you imagine?

Imagine that you have no means of communication.

How l̶o̶ ̶ ̶ ̶ ̶ ̶ ̶ ̶ ̶ ̶ wait to

What would you want to say….

- 10 words
- 20 words
- Which ones…

Communication Issues in Persons with Autism

- Young children with autism often
  - Are functionally non-verbal
  - Have difficulty understanding spoken communication
  - Have difficulty switching from one activity to the next
  - Have difficulty understanding why they can't do something they want to do at a particular time
  - Often benefit from visual supports and augmentative alternative communication (AAC)

Studies indicate that up to 60% of children with Autism will be unable to communicate functionally their wants, needs, and thoughts verbally.

Why Use AAC for People with Autism?

- Many individuals with autism do not develop spoken language
- Use of communication supports (AAC) can be a facilitator of spoken language
- Functional spontaneous communication is a predictor of positive outcome
  (Garfin& Lord, 1986; McEachin, Smith and Lovaas, 1993)
- National Research Council: functional spontaneous communication should be a priority in educational programs

Communication Skills

- Many researchers have described problem behaviors as communicative in nature.
- Inappropriate behaviors (screaming, pushing, hitting, fleeing, tantrums, etc) may appear as a means of:
  – Seeking attention/social closeness
  – Rejecting
  – Refusing
  – Acknowledging

Teaching alternative communication behaviors can effectively manage/reduce problem behavior.

The Effect of AAC use on Spoken Language

- Increased the incidence and length of spoken language in storybook reading (Dexter, 1998)
- Increased spoken language
  (Millar, Light, & Schlosser, 2000; Schlosser, 2003)
- Facilitated the development of speech
  (Schwartz, Garfinkle, & Bauer, 1998)
- ***NO EVIDENCE that AAC interferes with or inhibits the development of speech***
  (Mirenda, 2001; 2003; NRC, 2001)

Augmentative Communication Serves to:

- Facilitate oral language
- Enhance available communication modes
- Serve as an alternate form of communication

Why do we apply Augmentative Communication Strategies

- Students learn to respond only when someone else initiates, usually in a question-answer situation
- They need to learn to initiate independently
- Students have a limited range of communication functions that they use for requests

Know what Communication looks like for each child…

What we know… Myth or Fact

Myth
- AAC should only be considered after giving up all hope of natural speech

Fact
- Children with severe communication deficits who receive only therapy focusing on speech, endure years without an effective communication system.

Where do we start…

AAC

Technology that is available

- Low Tech communication
  - Object Communication Systems
  - Communication boards
    - PECS- Picture Exchange Communication
  - Talking Picture Album
  - Static Voice Output Communication Devices
  - Tap To Talk- for Nintendo or Nintendo DS

- High Tech Communication
  - Ipod Touch- ProLoQuoToGo
  - DynaVox
  - Prentke Romich

Technology
Is
Constantly Changing

Technology is not enough…

- Teach the use of the system
- Build opportunities
- Make it functional
- Teach what is important to the child
- Don't over prompt

Using speech generating devices to communicate during play

Typical Development

- Receptive language develops before expressive
- With AAC we need to develop receptive and expressive skills simultaneously

Hierarchy of visual communication items…

- Objects
- Real Photographs
- Colored Line Drawing (Icon)
- Black and White Drawing (Icon)
- Printed Word

French Fries

Where do I get the pictures

- News paper adds
- Packaging
- Camera
- Digital camera
- Drawings
- Stickers
- Google Image

- Internet
  - Visualstrategies.com
  - Do2learn.com
  - Beyondpecs.com
  - others
- Picture This
- Board Maker
- Visual Foods

What we know… Myth or Fact

Myth
- A young child is not ready for AAC
- A child with severe cognitive deficits cannot learn to use an AAC system

Fact
- There are no known cognitive or prerequisites that are necessary for a child to use AAC.
- Children with severe cognitive deficits are capable of learning and benefiting from AAC

How to make it work…
- Model the use of the technology to enhance communication
- Encourage it's use
- Set up for success
- Teach Initiation!

Goal of Augmenting Communication Skills
- To enable individuals to efficiently and effectively engage in a variety of communication interactionsand participate in activities of their choice" *Beukelman and Mirenda, 2005*

This may or may not involve a communication device

Functional Categories of Communication Interaction (Light, 1988)
Expression of basic wants and needs
  "I want a drink"
 Information transfer
  "I have a dog"
Social Closeness
  "Hi Joe, can you play?"
 Social Etiquette
  "Thank you"

Start Early
- Emerging communications can often benefit from specific training in AAC methods. This may include:
  – Parent training to recognize and respond to nonverbal communication signals
  – Parent training to increase communication opportunities
  – Symbol training
  – Use of basic AAC methods to encourage functional communication skills

How to get started
- Work in the natural environment
- Utilize family and teacher/therapists as trainers
- Collaboration is the key
- Generate an AAC team
- Simultaneous communication or Aided Language approach
- Use child directed learning not adult directed
- Utilize teachable moments
  – Integrate into daily routines and activities

Why a natural environment?

- Children are more motivated to learn because the goals are functional and make sense to the child, and because they are embedded in activities and routines that are interesting and fun.
- The resultant shorter, more frequent teaching opportunities distributed throughout the day are a more effective way of teaching than longer, less frequent drill-and-practice sessions.
- Children are more likely to maintain their skills because they are practicing them in natural situations everyday.
- Because the skills are functional and meaningful, children are more likely to independently generalize their use to other settings and with other people (Udwin & Yule, 1987).
- Skills taught in natural settings can lead to other benefits, such as better relationships with other persons present, improved academic standing, and greater involvement in activities. (Calculator, 1991).

## What we know... Myth or Fact

Myth   Fact

- The introduction of AAC reduces the motivation to work on speech.

- The use of AAC correlates with the improvement of natural speech... even in situations where no speech therapy has been given.

Prioritizing Activities for initial training

- Functional Activities
- Frequently occurring activities
- Motivating Activities
- Age-Appropriate Activities
- Multiple environments

When do we teach...

- Build on natural occurring activities.
- Throughout the day
- Utilize the AAC for a functional purpose
- Choose appropriate message set vocabulary

Bubbles
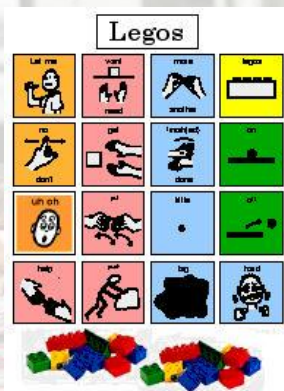
Training Spontaneous Interactive Communication

- Set the stage for communication
- Predetermine
- Give opportunities to communicate
- Prompts if needed/ model what language looks like (aided language/Simultaneous approach)
- Sabotage Routines
- Creative Stupidity

How do we teach…

- Offer choices-where, when, what…
- Demonstrate choice making (aided language approach)
- Utilize "creative stupidity" violate rules, make items inaccessible

ALWAYS!!!!!

- Ensure that the child has access to the AAC

- Ensure that the AAC is growing with the child's needs, stage of development and communicative level.

- Create an environment in which multiple conversational partners interact with the student.

Simple Voice Output Communication Aids (VOCA)

Picture Exchange Communication System (PECS)

Developed to help individuals with communication difficulties quickly acquire a functional means of communication.
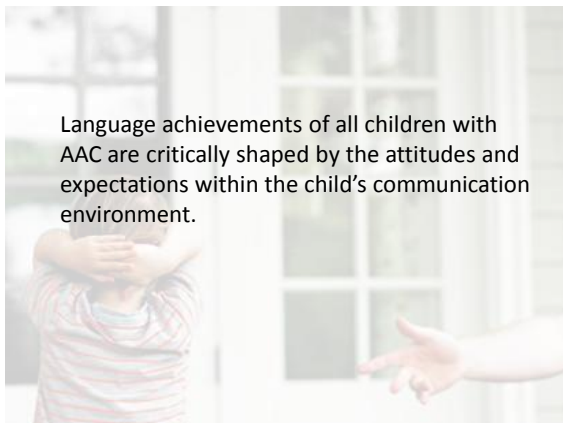- Each exchange is clearly intentional and understood.
- Communication is initiated by the student.
- Communication is meaningful and motivating

Talking photo albums

- Give Instructions
- Tell stories
- Record autobiographical information
- Facilitate daily conversation
- Help order in restaurants
- Support memory
- Other???

Josh's story

Tango

Language achievements of all children with AAC are critically shaped by the attitudes and expectations within the child's communication environment.

Create opportunities so that…

communication

Will happen…
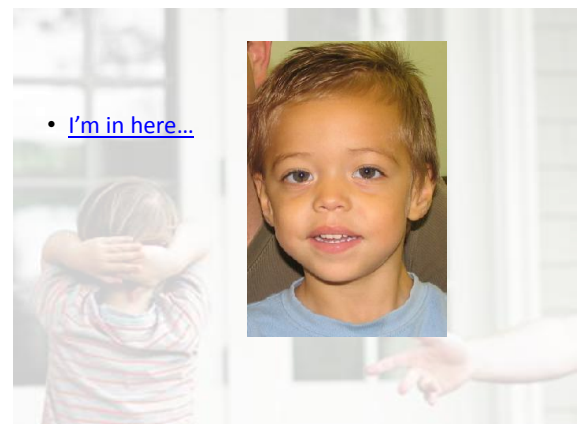
What we know… Myth or Fact

Myth

- AAC makes a child look abnormal and retarded

Fact

- In the long run a child is at greater risk of being judged when they do not have the ability to express themselves.

- I'm in here…